The MARVEL (Measured Active Rotational-Vibrational Energy Levels) algorithm and code, developed in the laboratory of the applicant, has been used successfully for the study of the experimental rovibronic transitions of a considerable number of small molecules. Recently the MARVEL process has been updated and extended allowing an improved analysis of large experimental datasets with the aim to retain the high accuracy of the best measurements at the end of the refinement procedure. Furthermore, as reflected by the active nature of the MARVEL procedure, when new data appear in the literature the old datasets need to be reinvestigated and updated. This update is proposed here for two molecules, H_2O and NH_3.

MARVEL studies yield empirical rovibronic energy levels which are very important to a detailed understanding of molecular motions as they themselves reflect molecular motion at the finest scale.

The collaboration between the ELTE and UCL groups on the high-resolution spectroscopy of H_2O and NH_3 got to the stage that it is realistic to complete these studies and push for a publication for both molecules. The aim of the visit is to achieve this goal. It is planned that the final analysis of the data will be performed during this visit and the manuscripts will be prepared allowing the fast publication of the results.